

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended): A hot-gas blowing fan, comprising:

a heat resisting impeller cantilevered by a rotating shaft;

a bearing attached to the rotating shaft;

a heat insulating layer disposed between the impeller and the bearing;

a cooling portion disposed between the heat insulating layer and the bearing, and the cooling portion includes a cooling fluid to remove heat from the bearing and the rotating shaft without contacting the bearing or the rotating shaft;

a first magnetic coupling disposed on a shaft end of the rotating shaft at a side opposite to the impeller;

a second magnetic coupling configured to be mated with the first magnetic coupling and disposed on a shaft end of a driving shaft of a motor; [[and]]

a non-magnetic partition wall disposed between the first magnetic coupling and the second magnetic coupling[[,]]; and

a collar positioned between the heat insulating layer and the impeller and positioned between the heat insulating layer and the rotating shaft, wherein the collar comprises a different material than the heat insulating layer,

wherein a space surrounding the rotating shaft is hermetically sealed from an exterior of the hot-gas blowing fan by the non-magnetic partition wall and a casing.

2. (Previously Presented): The hot-gas blowing fan according to Claim 1, wherein the hermetically sealed space is filled with an inert gas.

3. (Currently Amended): A hot-gas blowing fan, comprising:

a heat resisting impeller cantilevered by a rotating shaft;  
a bearing attached to the rotating shaft;  
a heat insulating layer disposed between the impeller and the bearing;  
a heat receiving portion disposed between the heat insulating layer and the bearing,  
and the heat receiving portion includes a cooling fluid to remove heat from the bearing and  
the rotating shaft without contacting the bearing or the rotating shaft;  
an air cooling/radiating portion provided at an outer side of a casing; [[and]]  
a heat transporting portion connecting the heat receiving portion to the air  
cooling/radiating portion, wherein the heat transporting portion is a heat pipe; and  
a collar positioned between the heat insulating layer and the impeller and positioned  
between the heat insulating layer and the rotating shaft, wherein the collar comprises a  
different material than the heat insulating layer.

4. (Original): The hot-gas blowing fan according to Claim 3, wherein the heat receiving portion and the heat transporting portion are unified to form a thermo-siphon heat pipe.

5. (Previously Presented): The hot-gas blowing fan according to Claim 1, wherein the cooling portion includes a heat receiving portion disposed between the heat insulating layer and the bearing, and  
the heat receiving portion is connected to an air cooling/radiating portion provided at an outer side of the casing via a heat transporting portion.

6. (Previously Presented): The hot-gas blowing fan according to any one of Claims 1 to 5, further comprising:

an inertia dust collector provided at an inlet port of a scroll.

7. (Currently Amended): The hot-gas blowing fan according to ~~Claim 1~~ Claim 1, wherein the hot-gas blowing fan is configured to be attached to a solid oxide fuel cell.

8. (Previously Presented): The hot-gas blowing fan according to Claim 3, wherein the hot-gas blowing fan is configured to be attached to a solid oxide fuel cell.

9. (Currently Amended): The hot-gas blowing fan according to Claim 1, further comprising:

a heat insulating spacer disposed between the ~~heat insulating layer~~ collar and the cooling portion to block heat transfer between the ~~heat insulating layer~~ collar and the cooling portion.

10. (Currently Amended): The hot-gas blowing fan according to Claim 3, further comprising:

a heat insulating spacer disposed between the ~~heat insulating layer~~ collar and the heat receiving portion to block heat transfer between the ~~heat insulating layer~~ collar and the heat receiving portion.

11. (Previously Presented): The hot-gas blowing fan according to Claim 1, wherein a temperature of the cooling fluid is higher than a temperature of a dew-point of a process gas blown by the hot-gas blowing fan.

12. (Previously Presented): The hot-gas blowing fan according to Claim 3, wherein a pressure in the heat receiving portion is adjusted so that a boiling point of the cooling fluid is higher than a dew-point of a process gas blown by the hot-gas blowing fan.

13. (New): The hot-gas blowing fan according to Claim 1, wherein no liquid contacts the rotating shaft between the impeller and the bearing closest to the impeller.

14. (New): The hot-gas blowing fan according to Claim 1, wherein the collar and the cooling portion provide a path for gas from the heat resisting impeller to travel to the bearing without a seal positioned between the impeller and the bearing.

15. (New): The hot-gas blowing fan according to Claim 3, wherein no liquid contacts the rotating shaft between the impeller and the bearing closest to the impeller.

16. (New): The hot-gas blowing fan according to Claim 3, wherein the collar and the heat receiving portion provide a path for gas from the heat resisting impeller to travel to the bearing without a seal positioned between the impeller and the bearing.